



# **Land Data Processing and Collection 6**

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**MODIS/VIIRS Science Team Meeting  
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# **Assumptions (1/2)**

## **(Processing and Archiving)**

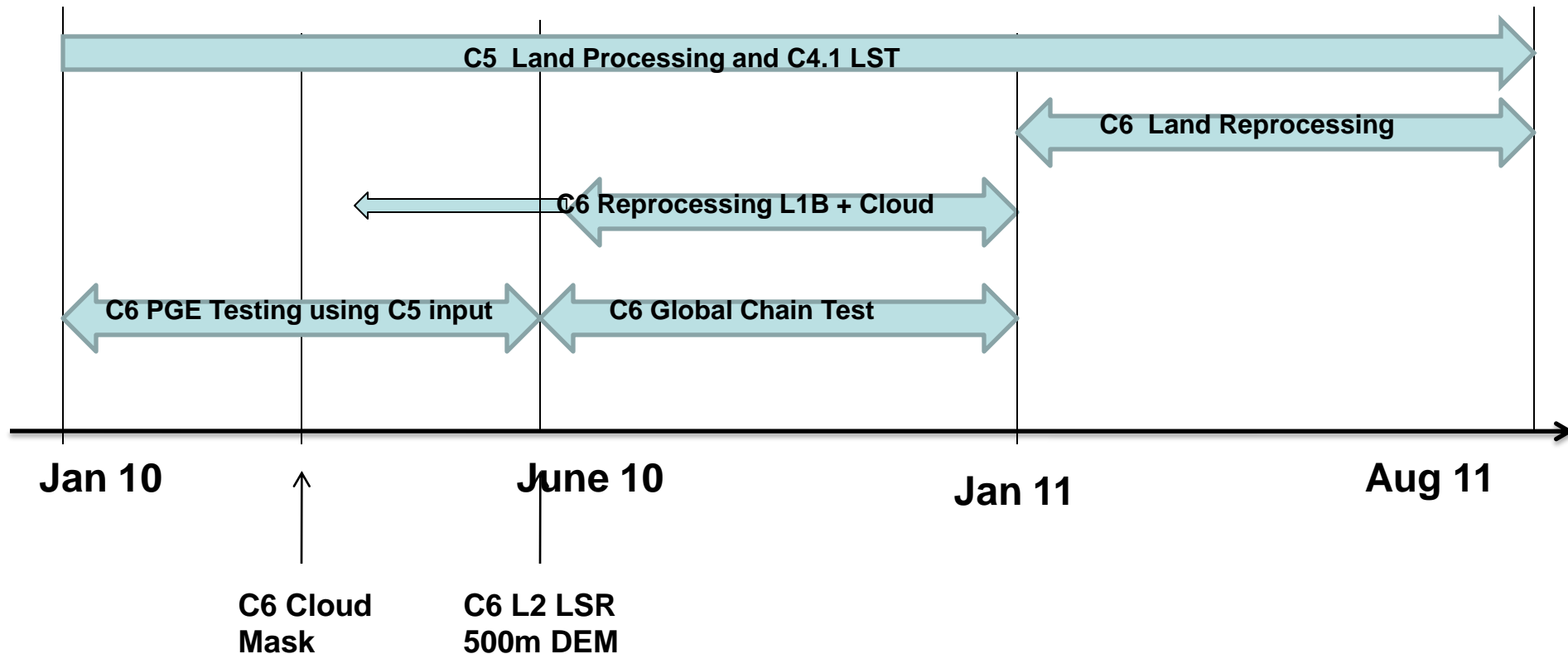
- **C5 (and C4.1 LST) processing will continue through the completion of C6 reprocessing.**
- **C5.1 BA reprocessing is expected to be done between March 2010 - May 2010**
- **MODAPS will have dedicated resources available for science testing while the C5 forward processing and C6 reprocessing of L1B and Cloud Mask progresses.**
- **MODAPS should be able to process at an average rate of 30x. At this rate the reprocessing could be completed in eight months**
- **It is anticipated that the LP and NSIDC DAACs will be able to ingest the land products at these production rates and also retain C5 products for sufficiently long time after the C6 reprocessing has been completed. Longer term archive of C5 is under consideration.**

# Assumptions (2/2)

- **C6 L1B delivery**
  - Initial deliveries made by MCST in Aug 2009. Update to Aqua came in Dec 2009, update to Terra LUT expected in Jan 2010.
- **C6 Land Cover input for C6 reprocessing expected in Jan 2010**
  - This will be a bi-annual product in 500m and 1km resolution (MODLCHKM and MODLC1KM)
  - Final version will be distributed from the DAAC
- **C6 Cloud Mask (MOD35) and Atmospheric Profile (MOD07) is expected to be validated by early April 2010**
- **Final 500m DEM expected in June 2010 (test data is expected in March)**
- **First version of LSR (PGE11) expected in May/June 2010.**
- **All of the global tests will use Terra and Aqua data from two 16-day periods starting with data day 2003001 and 2003193**

# C6 Testing and Reprocessing TimeLine

- C6 Reprocessing scheduled to start in Jan 2011 and complete by Aug 2011
- Two Science Test periods for all PGEs -> before and after delivery of first version of C6 PGE11
- Reprocessing of C6 L1B and Cloud Mask could start in April 2010 or may be delayed until June 2010



# Four C6 Science Test Phases

1. **C6 L1B, Land Cover, Cloud Mask/Atmospheric Profile (Nov 2009 – April 2010)**
  - Evaluate the effect of C6 changes in L1B, input Land Cover, MOD35 (CM) and MOD07 (Profile) on the C5 Land Products
2. **PGE Specific Tests for C6 update (Dec 2009 – June 2010)**
  - C6 development and testing of LSR
  - Independent testing and evaluation of C6 changes to LSR downstreams using C5 input – VI, LAI/FPAR, BRDF/Albedo
  - C6 development and testing of LST, Fire, Snow and Sea/Ice using C5 or C6 inputs.
3. **Global Chain Tests (June 2010 – October 2010)**
  - 1<sup>st</sup> 16-day global chain test
  - 2<sup>nd</sup> 16-day global chain test
  - 3-month n-tiles time series test
  - Final 16-day global test/time series test
4. **Community Evaluation (Nov/Dec 2010)**
  - Final test results will be released for community evaluation

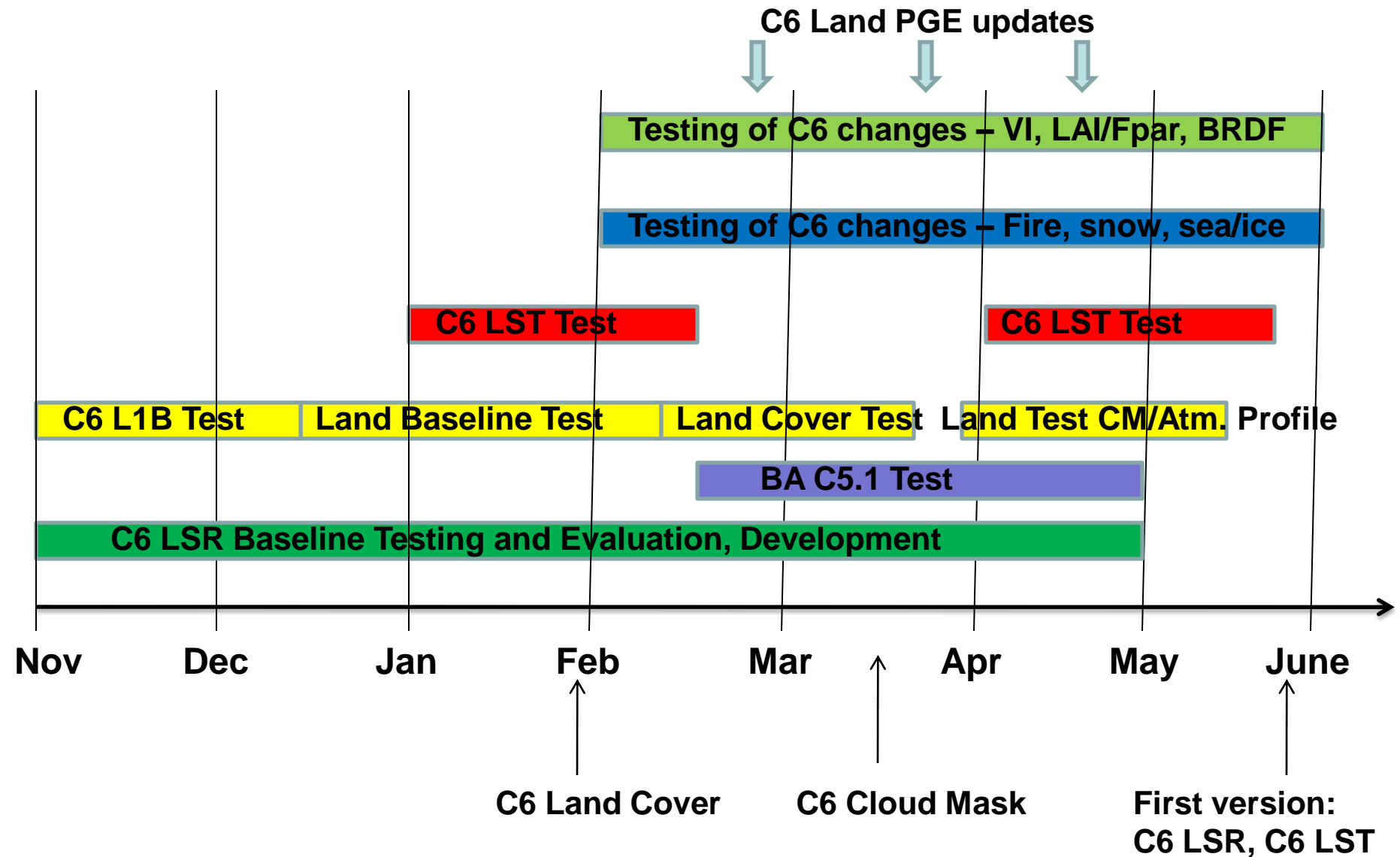
# 1. C6 L1B, Land Cover, Cloud Mask Tests

- **C6 L1B Test (Aqua + Terra) (Nov 15 - Dec 31, 2009)**
  - Evaluate the C6 L1B changes by comparing to the C5 L1B.
- **C6 Land Baseline Test (Aqua + Terra) (Jan 10 - Feb 15, 2010)**
  - Evaluate effect of C6 L1B changes on C5 Land products.
- **C6 Land Cover Test (Aqua + Terra) (Feb 15 - Mar 15)**
  - Evaluate the effect of C6 land cover on C5 Land Products
- **C6 Cloud Mask, and Atmospheric Profile (Mar 16 - May 07)**
  - Evaluate the effect of C6 cloud Mask on C5 Land Products.

## 2. Preliminary C6 PGE Specific Tests

- **Fix L2G-lite issues**
- **LSR - PGE11/75 Test (completed in June 2010)**
  - Test will generate the required baseline data for development of the C6 PGE (Production of 6-year data could take 3 months at 40x rate)
- **LST – PGE16 Test (May/June 2010)**
  - Three C6 deliveries expected at interval of one month each.
  - 1<sup>st</sup> drop is expected a month after the delivery of C6 MOD35 and MOD07.
  - Testing of initial versions scheduled independent of the other land PGEs and tests
- **LAI/FPAR – PGE33 Test (Mar 2010)**
  - LDOPE will update the PGE to use L2G-lite and generate 500m Lai/Fpar.
- **VI – PGE35/25 (Mar 2010)**
  - Generate 250m, 500m and 1km product from 8-day LSR product
  - Development and evaluation in progress at LDOPE with science guidance from the PI
- **BRDF/Albedo (Mar 2010)**
  - Preliminary testing will include L2G-lite update, 4-day temporal frequency, and QA refinement
- **Fire, Snow, and Sea-Ice (TBD)**

# C6 Science Test and PGE delivery

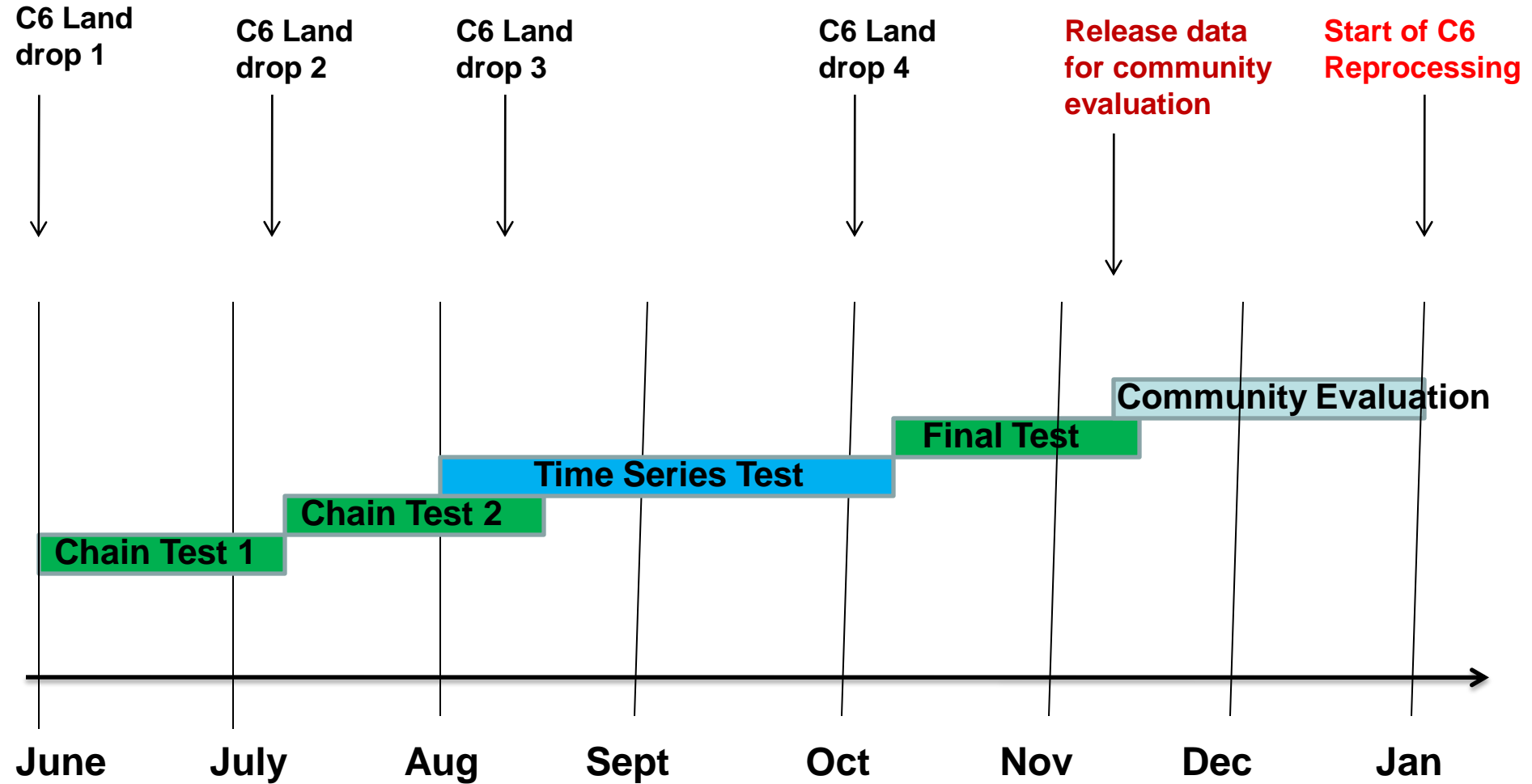




### 3. Global Chain Tests

- **Production of test data is expected to complete in 7 days (64 days at 10x rate). There will be nearly 3 week for evaluation, code update and delivery.**
- **1<sup>st</sup> 16-day Global Test in June 2010**
  - The test will use C6 L1B, Cloud Mask and Atmospheric Profile
  - All available land PGEs will be run with the first C6 version of PGE11
- **2<sup>nd</sup> 16-day Global Test in July 2010**
  - Second C6 updates to Land PGEs
- **N-tiles 3-month time series Test in August 2010**
  - Science Teams, LDOPE and Validation Team will identify the tiles and test period.
- **Final Global Test in October 2010**
  - All PGEs will be included in this test
  - Data from this test will be released for community evaluation in November 2010

# C6 Science Test and PGE delivery



## 4. Community Evaluation

- Data from the final global test and C5 baseline could be released from LAADS and DAAC for community evaluation in Nov 2010.  
*(Eric suggested using global data from a longer time series such as 3-month)*
- Community Experts (at least one for each product) will be identified before release.
  - *Science Teams identify the community experts.*
  - *Prepare and release the protocol for evaluation.*
- Experts will have nearly a month time to evaluate and provide feedback

# Backup

# Major C6 Science Tests

## 1. Test C5 Land PGEs for C6 L1B, Land Cover, and Cloud Mask/Atmospheric Profile

Test Name	Purpose	Test PGEs	Baseline PGEs	Start production	End evaluation
C6 L1B Test	Evaluate C6 changes to L1B	C6 L1B	C5 L1B	Nov 15, 2009	Dec 15, 2009
C6 Land Baseline Test	Evaluate effect of C6 L1B changes on Land PGEs	C6 L1B + C5 Atm + C5 Land	C5 L1B + C5 Atm + C5 Land	Jan 1, 2010	Feb 15, 2010
C6 Land Cover Test	Evaluate effect of C6 Land Cover on Land PGEs	C6 L1B + C5 Atm + C6 LC + C5 Land	C6 L1B + C5 Atm + C5 Land	Feb 01	Feb 28, 2010
C6 Cloud Mask/Atmospheric Profile	Evaluate effect of C6 Cloud Mask and Atmospheric Profile	C6 L1B + C6 Atm + C6 LC + C5 Land	C6 L1B + C5 Atm + C6 LC + C5 Land	March 21, 2010	April 15, 2010